

Coherent Optical Information Processing Using a Stimulated Echo Hologram

Garnaeva G., Nefediev L., Sahbieva A.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2016 Springer Science+Business Media New York We consider information recording and reconstruction using a reversed stimulated echo hologram, when the recording medium is exposed to pulses of nonresonant electromagnetic standing waves. We show that the spatial intensity distribution in the stimulated echo hologram response depends on the strength of the electric fields in the nonresonant standing waves, which makes it possible to control the reconstructed image.

<http://dx.doi.org/10.1007/s10812-016-0223-3>

Keywords

echo hologram, information recording and reconstruction, nonresonant standing waves, transparency, wavefront